

REMARKS

The rejections of Claims 45-55, and 59-62, as well as Claims 63-73, and 77-81, and Claims 82-92, and 96-99, as being anticipated by Sundar under 35 U.S.C. § 102(e), and of Claims 56-58, 74-76 and 93-95 as being unpatentable over Sundar in view of Edwards et al under 35 U.S.C. § 103 (a) are traversed. Reconsideration of each of these four separate rejections is requested in light of new Claims 100-102 and the following remarks.

In view of the Examiner's interpretation of Sundar with regard to original Claim 45, applicants have submitted new Claim 100 which now clearly points out that the workpieces are loaded via a loadlock arrangement into a vacuum treatment facility. The loadlock chamber 112 of Sundar as shown in either Fig. 4 or Fig. 8 is provided downstream of the cassettes 109. The workpieces are loaded via a loadlock arrangement in a vacuum treatment facility of the present invention which comprises at least two workpiece processing stations. Thus, the cassettes 109 of Sundar are not reachable on the claimed workpiece processing stations because in Sundar the vacuum treatment facility is separated from the cassettes 109 by the loadlock arrangement. In the present invention as claimed, it is the vacuum treatment facility which comprises the two workpiece processing stations.

We further note that at least two workpiece processing stations, each of which process workpieces as involved in the present invention. Merely exposing

workpieces to vacuum as in Sundar cannot be read on such processing. Indeed, Sundar clearly differentiates between process chambers and loadlock chambers.

Claim 100 makes clear that at least two workpieces processing stations operate each on workpiece batches which are different with respect to number of workpieces. Sundar clearly teaches process chambers (e.g., col. 11) which are tandem processing chambers. Consequently, the transport arrangement of Sundar is a dual wafer handling arrangement, in which the two substrates in each of the process chambers may be handled simultaneously.

Sundar neither clearly teaches nor suggests providing the claimed at least two workpiece processing chambers which each process workpiece batches of different number of workpieces. The claimed at least two processing chambers which operate on workpiece batches allow the selection of an optimal number of workpieces at each station batch according to the respective processing. By way of example, the selected number of simultaneously processed workpieces in a sputter coating chamber can be different from the number of workpieces of the batch in a degassing chamber or in a CVD chamber.

Claim 101, also now clearly sets forth that the transport batch control variably controls the extent of the transport batch. In Sundar, however, two transports are involved, one from the cassettes 109 with the front end wafer handler 113 to the loadlock chamber 112 (Fig. 8) and the other transport via the transfer chamber wafer handler from the loadlock chamber 112 to the processing chambers. The Sundar transfer chamber wafer handler is a dual wafer handling

robot (col. 8, line 56). That handler provides a transport batch of two wafers. Sundar does not teach controllable varying the extent of this transport batch, but instead teaches transport of two workpieces (a batch of two) with the transfer chamber wafer handler.

In the front end staging area in the Sundar arrangement, a wafer handler 113 is provided to handle wafers from the cassettes 109 to and from cassettes disposed in the loadlock chamber 112. Thereby, a wafer mapping system is provided to index the wafers in each wafer cassette 109 in preparation for loading the same into the loadlock cassettes disposed in the loadlock chamber 112. Thereby, a wafer mapping sensor verifies the number of wafers and orientation of the wafers in the cassette 109 before processing the wafers into the loadlock chamber 112.

Fig. 8 of Sundar makes clear that wafer cassette turntable 111 is provided for rotating the cassettes 109 (note its left and right hand positions) and for lifting and lowering of respective cassettes 109. Thereby, respective substrates may be moved into a plane from respective cassettes 109 to the cassettes 208 in the loadlock chamber 112. The wafer mapping system is intended to assure that the wafers are properly oriented. Sundar does not, however, teach that the workpieces are transported from the cassettes 109 to and into the cassettes 208 of the loadlock chamber 112 as a transport batch, i.e. that more than one wafer is simultaneously transported between these addressed cassettes. Sundar does not suggest controllably varying the extent of such transport batches, and does not

suggest controllably varying the number of workpieces of a transport batch in a vacuum treatment facility.

With regard to new Claim 102, we again note that neither Sundar nor Edwards et al., either alone or in hypothetical combination, teach or suggest the concept of controllably varying station batches on which workpieces grouped as respective station batches can be processed on different numbers. In Edwards et al., the process stations 34 are served via a transfer chamber 33 which has a transfer arm 35, capable of moving wafers individually among the processing modules 34 (col. 7, line 15 *et seq.*). The processing chambers 34 are served by single wafer transports through a respective slit valve 38 through which the transport arm 35 moves wafers individually. Fig. 4 of Edwards et al., clearly shows that the processing chambers 34 are not operating on workpiece batches.

Accordingly, early and favorable action upon this application is earnestly solicited.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and

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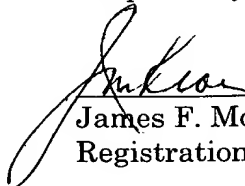
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Reply to Office Action

please charge any deficiency in fees or credit any overpayments to Deposit  
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Respectfully submitted,

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